Front-end module for Wi-Fi

SiGe Semiconductor announced the world's first complete RF front-end module for Wi-Fi designed to comply with the IEEE 802.11n draft specification. The SE2545A10, which integrates two full dual-band transmit/receive chains, provides manufacturers with a fully tested solution that simplifies design, and features the integration and efficiency required to support wireless multimedia services without compromising battery life, size or performance.

IF amps for DBS

NEC introduced its newest family of silicon and SiGe IF amplifiers for DBS and Ku-Band. For designs in need of high gain, the UPC3225TB delivers 33.5dB at 2.2 GHz. If low current is a concern, the UPC3227TB has an Icc of just 4.8 mA at 5 V. There are five devices in the line-up, three of which are based on NEC's newest 50 GHz UHS2 high-speed SiGe process.

RF shield patent

NaturalNano Inc, of Rochester, NY, USA, has exclusively licensed technology that allows for selectively turning on or off access to radio signals, such as those used by cellphones or wireless computer networking devices, in areas that otherwise are shielded from those signals. NaturalNano licensed U.S. Patent No. #6,885,845 "Personal Communications Device Connectivity Arrangement" from AMBIT Corporation.

Maxim RF MESFET bias controllers

Maxim Integrated Products' MAX11014/MAX11015 ICs set and control bias conditions for dual MESFET power devices found in point-to-point communication and other microwave basestations.

The MAX11014 integrates closed-loop drain-current control for class A MESFET amplifier operation, while the MAX11015 sets the MESFET gate voltage for class AB operation.

For more details, visit: www.maxim-ic.com

Hittite MMICs target defence and test

Hittite Microwave Corp has added to its range of RF products with two new MMICs. Firstly, the HMC-C025 which is a 0.5dB LSB, 6-Bit digital attenuator connectorised module aimed at the market for military electronic warfare, space, test equipment, and microwave radio DC to 13 GHz.

A DC to 13 GHz 6-bit digital attenuator housed in a hermetic connectorised module, the GaAs MMIC attenuator features 4dB typical insertion loss, +38dBm input IP3, and 31.5dB total attenuation in 0.5dB steps. The HMC-C025 operates with positive control and offers excellent attenuation accuracy of ±0.3 dB.

The hermetically sealed module is rated for operation from -55C to +85C, and can be assembled and screened for military and space applications.

Hittite Microwave also introduced a new SMT wideband GaAs HBT MMIC voltage controlled oscillator for markets such as telecom, ISM, military, and test from 5 to 10 GHz.

The HMC587LC4B is a wideband GaAs InGaP HBT MMIC VCO which incorporates the resonator, negative resistance device, and varactor diode.

This fully integrated MMIC VCO offers a wide output frequency tuning range of 5 to 10 GHz, with +5dBm output power and very low SSB Phase Noise of -95dBc/Hz @ 100 kHz offset. Output power and phase noise performance are stable over the temperature range thanks to the oscillator's monolithic construction. The HMC587LC4B operates from a single +5V supply, consumes only 55 mA of current, and is housed in a RoHS-compliant 4x4mm SMT package. This wideband VCO uniquely combines the attributes of ultra small size, octave tuning bandwidth, low phase noise and low power consumption.

For more details, visit: www.hittite.com

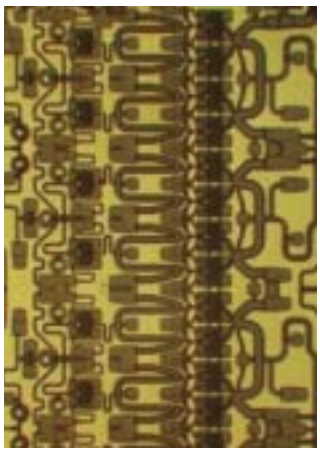
Robust high power X-band amplifier

M/A-COM announced a high power X-band amplifier for use in applications including commercial avionics, weather radar, and military radar systems. The MAAPGM0079-DIE is a COTS 3-stage X-band high power amplifier covering 7.5 to 10.5 GHz and designed to produce 16-20 W of output power.

The MAAPGM0079-DIE amplifier is designed to produce 20 W over the 8.0 to 10.0 GHz range and 16 watts over the full 7.5 to 10.5 GHz range with a typical gain of 29dB. It requires +10 VDC and negative supply voltages, and uses 6 A under compression and is fabricated using M/A-COM's MSAG process, which features a polyimide coating and no air bridges which produces a rugged chip for high assembly yields. The MTTF is 1 million hours at a 170C junction temperature.

The MAAPGM0079-DIE amplifier is now available as a bare die, a ceramic packaged version will be available in mid-2006. It is currently available from stock in low quantities for engineering development. Lead times on higher quantities start at 12 weeks. It is priced at $346.09 (100 qty).

In other news, M/A-COM introduced its new MAAPSS0075 RoHS-compliant 2.4 GHz linear PA for 802.11b/g WLAN applications. The MAAPSS0075 amplifier is ideal for installations that require high gain, high efficiency, and small size at a cost-effective price level.



MAAPGM0079-DIE is a COTS 3-stage X-band high power amplifier covering 7.5 to 10.5 GHz and designed to produce 16-20 W.

For more details, visit: www.macom.com

Single-chip CMOS HSDPA/WEDGE transceiver

Sirific Wireless Ltd launched the mobile industry's first single-chip CMOS HSDPA/WEDGE RF transceiver. The SW3200, the first product in Sirific's NEXUSTM III family of CMOS 3.5G RF transceivers, sets new standards for size, cost, performance and functionality for next-generation mobile handsets.

This compact multi-band radio module incorporates fewer than 130 components in a board area of less than 7.0 cm^2 – more than 150% smaller than the competition.